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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,784	12/11/2003	Timo Tokkonen	KOLS.074PA	8180

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Hollingsworth & Funk, LLC
Suite 125
8009 34th Avenue South
Minneapolis, MN 55425

EXAMINER

NEGRON, WANDA M

ART UNIT	PAPER NUMBER
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2622

MAIL DATE	DELIVERY MODE
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10/31/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/733,784

Applicant(s)

TOKKONEN ET AL.

Examiner

Wanda M. Negrón

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanaka et al. (US Patent No. 5,760,832), and further in view of Ogura et al. (US Application Publication No. 2002/0020845).

Regarding **claim 1**, Yamanaka et al. disclose an imaging device (1) comprising at least two image capturing apparatus, i.e. a CCD that senses red and blue components (19) and two CCDs that sense green component (17, 18), each apparatus being arranged to produce an image, i.e. a R/B photo image and G1/G2 photo images (see col. 6, lines 58-67), wherein at least one first apparatus comprises a color filter matrix of red and blue elements, i.e. a sensor matrix of red and blue pixels (see figure 6), and at least one second apparatus comprises a green color filter, i.e. a sensor matrix of green pixels (see figure 5). It would be inherent to use a controller, i.e. a microprocessor, in order to form a full-color enhanced image by combining the images produced with each apparatus (see col. 13, lines 9-20). Yamanaka et al., however, do not disclose that each apparatus includes a respective lens for producing an image.

On the other hand, the use of a planar layout for multiple image capturing apparatuses including a focusing lens for each apparatus is old and well known in the art, as evidenced by Ogura et al. (see figures 1 and 11).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a well-known planar layout including a lens for each of the image capturing apparatuses disclosed by Yamanaka et al. because the overall size of the image pickup device is minimized since the use of a bulky prism is eliminated and the image capturing apparatuses are manufactured on the same substrate.

Regarding **claim 2**, Yamanaka et al., as modified by Ogura et al., disclose a controller, i.e. a control unit (20), arranged to produce a single color image from the image taken with the second apparatus, i.e. G1/G2 photo images (see col. 6, lines 58-67).

Regarding **claim 3**, Yamanaka et al., as modified by Ogura et al., disclose that the second apparatus comprises a color filter matrix of green elements, i.e. a sensor matrix of green pixels (see figure 5).

Method **claims 8-10** are drawn to the method of using the corresponding apparatus claimed in claims 1-2. Therefore method claims 8-10 correspond to apparatus claims 1-2 and are rejected for the same reasons of anticipation as used above.

Claims 4-7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogura et al. (US Application Publication No. 2002/0020845), and further in view of Yamanaka et al. (US Patent No. 5,760,832).

Regarding **claims 4 and 6**, Ogura et al. disclose a lenslet array, i.e. small lenses disposed in the same plane (see elements 46 in figure 9), with at least three image capturing apparatus i.e. red, blue and green color picture cell arrays (2, 3, 5) with their respective color filters (see paragraph [0052] and [0087]), each apparatus including a single lens (6, 7, 9) and each apparatus being arranged to produce an image, wherein a first apparatus comprises a red color filter, a second apparatus comprises a blue color filter, and a third apparatus comprises a green color filter (see paragraph [0052] and [0087]), each apparatus comprising an image sensor, i.e. red, blue and green color picture cell arrays (2, 3, 5). It would be inherent to use a controller, i.e. a microprocessor, in order to form a full-color enhanced image by combining the images produced with each apparatus.

Ogura et al., however, do not explicitly disclose that the image sensor of the third apparatus, interpreted as green color picture cell array 3 in figure 10A with its respective color filter, is larger than the image sensors of the first and second apparatus, interpreted as red color picture cell array 2 and blue color picture cell array 5 each with their respective color filters.

Yamanaka et al., on the other hand, discloses that having a larger number of green pixels, interpreted as adding more pixels having the same size as the original

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pixels to color picture cell array 3, minimizes the deterioration of the image quality (see col. 2, lines 15-19). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to increase the number of pixels, which increases the size, of the image sensor of the third apparatus because it would prevent deterioration of the image quality.

Regarding **claims 5 and 7**, Ogura et al., as modified by Yamanaka et al., disclose that the image sensor of the third apparatus is at least twice as large, i.e. comprises double the number of green pixels (see Yamanaka et al., col. 2, lines 15-19), as the image sensors of the first and second apparatus.

Method **claim 11** is drawn to the method of using the corresponding apparatus claimed in claim 6. Therefore method claim 11 corresponds to apparatus claim 6 and is rejected for the same reasons of anticipation as used above.

Response to Arguments

Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Suda (US Application Publication No. 2002/0089596; US Patent No. 6,859,229; US Patent No. 6,885,404), Takagi et al. (US Patent No. 4,383,170), Meyers (US Patent No. 6,137,535), Kawai (US Application Publication No. 2003/0234907), and Tangen et al. (US Patent No. 6,765,617) disclose an imaging device comprising multiple image capturing apparatuses having a planar layout.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wanda M. Negrón whose telephone number is (571) 270-1129. The examiner can normally be reached on Mon-Fri 6:30 am - 4:00 pm alternate Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Wanda M. Negrón/

Examiner, Art Unit 2622
October 29, 2007



DAVID OMETZ
SUPERVISORY PATENT EXAMINER